CLAIMS

1. A coated luminescent material comprising a luminescent material powder formed by grains, the luminescent grains being coated, wherein the layer thickness of the coating is at most 5 nm and, in particular, is less than or equal to 3 nm.

2. The coated luminescent material as claimed in claim 1, wherein the luminescent material is selected from the group: garnets, chlorosilicates, thiogallates and aluminates, nitridosilicates and vanadates.

3. The coated luminescent material as claimed in claim 2, wherein the luminescent material contains rare earth metals as constituents.

4. The coated luminescent material as claimed in claim 1, wherein a material is selected from at least one of following groups for the coating:

- alkylsilyl halides, in particular of the type R_2SiX_2 with R = alkyl and X = Cl or Br;
- arylsilyl halides, in particular of the type Ar_3SiX or Ar_2SiX_2, where Ar = phenyl in particular;
- phenyl-substituted silicon alkoxides;
- alkyl halides of the type R-X;
- acyl halides of the type R-C=O
  |
  X

in each of which R = aliphatic residue and X = halogen, preferably Cl or Br.

5. The coated luminescent material as claimed in claim 1, wherein the layer thickness is between 0.1 and 2 nm.

6. The coated luminescent material as claimed in claim 1, wherein a second layer of flame-hydrolytically produced metal oxides is applied to the first layer.

7. A light-emitting device, having at least one radiation source which emits essentially within the range of from 150 to 600 nm, and a luminescent layer which

converts the light from the light source at least partially into longer-wave radiation, the luminescent layer being formed by particles which are coated, as claimed in claim 1.

8. A light-emitting device, having at least one radiation source which emits essentially within the range of from 150 to 600 nm, and a luminescent layer which converts the light from the light source at least partially into longer-wave radiation, the luminescent layer being formed by particles which are coated, as claimed in claim 4.

9. The light-emitting device as claimed in claim 7, wherein the radiation source is a UV-emitting LED, which emits with a peak wavelength in the range of from 300 to 420 nm.

10. The light-emitting device as claimed in claim 7, wherein the radiation source is a blue-emitting LED, which emits with a peak wavelength in the range of from 425 to 490 nm.

11. The light-emitting device as claimed in claim 7, wherein the radiation source is a high-pressure discharge lamp, which emits essentially in the range of from 200 to 490 nm.

12. The light-emitting device as claimed in claim 7, wherein the radiation source is an excimer discharge device, which emits essentially in the range of from 150 to 320 nm.